Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-13. (Cancelled)

14. (Original) A method for calibrating an electronic compass, comprising:

calculating a first averaged data point using a first predetermined number of data points;

calculating a second averaged data point using a second predetermined number of data points;

calculating a third averaged data point;

calculating a fourth averaged data point; and

calculating deviation compensation data based on a combination of the first averaged data point, the second averaged data point, the third averaged data point, and the fourth averaged data point.

15. (Original) The method of claim 14, further comprising displaying a heading based on data that has been received from the electronic compass and that has been compensated based on the deviation compensation data.

16. (Original) The method of claim 14, wherein calculating the first averaged data point comprises calculating the first averaged data point based on a predetermined number of consecutive points that meet a predetermined criteria.

17. (Original) The method of claim 16, wherein the predetermined criteria includes at least one of;

a. the data points were collected while a vehicle was traveling a predetermined speed, the predetermined speed being a value at least about ten miles per hour;

b. the data points were not collected consecutively with a large number of points not meeting a second predetermined criteria.

18. (Original) The method of claim 14, further comprising using the combination of the averaged data points to calculate an x-axis offset and a y-axis offset.

19. (Original) The method of claim 14, wherein the first predetermined number of data points and the second predetermined number of data points are a same number.

20. (Original) The method of claim 14, wherein calculating deviation compensation based on a combination of the first averaged data point, the second averaged data point, the third averaged data point, and the fourth averaged data point comprises;

determining that the first averaged data point, the second averaged data point, and the third averaged data point do not meet a predetermined criteria;

determining a combination of any three of the first, second, third, and fourth averaged data points that meet the predetermined criteria; and

calculating the offset using the combination of three averaged data points that meet the predetermined criteria.

21. (Original) The method of claim 20, wherein the predetermined criteria includes at least one of;

a. the data points are a minimum distance apart from each other;

b. three of the data points do not form a substantially obtuse triangle; and

c. three of the data points do not form a triangle that is too acute.

22. (Original) A method for calculating deviation compensation data for an electronic compass circuit, comprising:

determining whether data points received from an electronic magnetic field detector meets a first predetermined criteria; and

calculating deviation compensation data based on the data points received from an electronic magnetic field detector if the data points meet the first predetermined criteria;

wherein the first predetermined criteria comprises a vehicle speed criteria which includes that the data points be collected while a vehicle is traveling at least a predetermined speed.

23. (Original) The method of claim 22, wherein the predetermined speed is a value at least about ten miles per hour.

24. (Original) The method of claim 23, wherein the vehicle speed criteria is not used for initial calibration, but is used for continuous calibration.

25. (Original) The method of claim 22, wherein the vehicle speed criteria is not used for initial calibration, but is used for continuous calibration.

26. (Original) The method of claim 25, wherein the data points used for calculating deviation compensation data in an initial calibration mode must be obtained while a vehicle is moving.

27. (Original) The method of claim 25, further comprising:

determining if a vehicle is moving; and

calculating the deviation compensation data based only on data points obtained when the vehicle is moving.

28. (Original) A method for calculating deviation compensation data for an electronic compass circuit, comprising:

determining if a vehicle is moving a predetermined speed; and

obtaining data to be used to calculate deviation compensation data based on the determination of vehicle speed.

29. (Original) The method of claim 28, wherein the predetermined speed is at least about ten miles per hour.

30. (Original) The method of claim 29, further comprising calculating deviation compensation data for the electronic compass using only data points obtained while the vehicle was moving at least the predetermined speed.